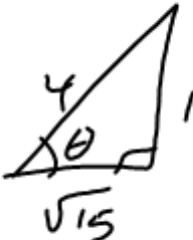


(68)  $\cos(2\sin^{-1}(\frac{1}{4}))$

$\theta$



$$\cos(2\theta) = 1 - 2\sin^2\theta$$

$$= 1 - 2\left(\frac{1}{4}\right)^2$$

$$= 1 - 2 \cdot \frac{1}{16}$$

$$= 1 - \frac{2}{16}$$

$$= 1 - \frac{1}{8}$$

$$= \frac{7}{8}$$

75

$$\cos\left(\tan^{-1}\left(\frac{5}{12}\right) - \tan^{-1}\left(\frac{3}{4}\right)\right)$$



$$\cos(A - B) = \cos A \cos B + \sin A \sin B$$

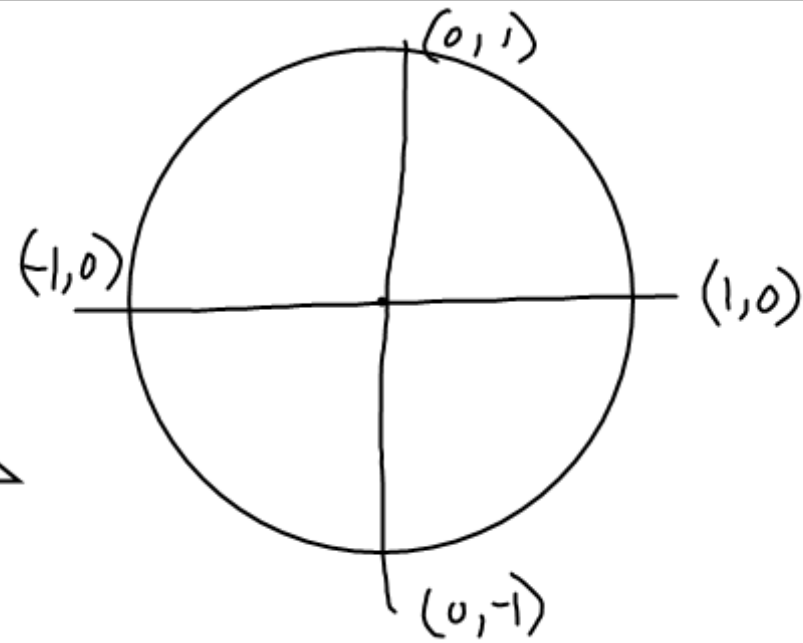
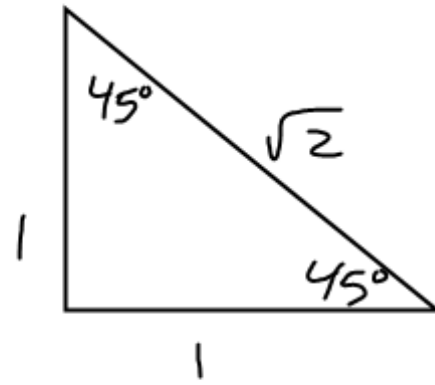
$$= \frac{12}{13} \cdot \frac{4}{5} + \frac{5}{13} \cdot \frac{3}{5}$$

$$= \frac{48}{65} + \frac{15}{65}$$

$$= \frac{63}{65}$$

$$\tan \theta = \frac{5}{12}$$

$$\theta = \tan^{-1}\left(\frac{5}{12}\right)$$



$$\cos^{-1}\left(-\frac{1}{2}\right)$$

$60^\circ$

## Drop time with velocity

$$h(t) = -16t^2 + v_0t + s_0$$

$t = \text{time}$

$\downarrow$  height       $\downarrow$  gravity       $\downarrow$  initial velocity (ft/sec)       $\downarrow$  initial height (ft)

w/o velocity

$$h(t) = -16t^2 + s_0$$

## Write Up for Drop Time with Velocity - Due Friday

- Equation for drop time (2 pts - define)
- How derived
  - where you started (2 pts)
  - What  $V_0$  &  $S_0$  are and why (2 pts)
  - how solved (2 pts)
- Test (2 pts)

## Homework:

- Sect. 6.1 #21-24, 33-36, 43-46, 53-55, 76-78  
                     radians           degrees

NO CALC  
 give both angles

yes  
 calc

- Solve for  $t$  in  $h(t) = -16t^2 + V_0t + S_0$   
     - what gets substituted for  $V_0$  and  $S_0$ ?